

WHAT IS CLAIMED IS:

1 1. A liquid ejection head, comprising:
2 a metallic chamber formation plate, having a first region in which a
3 plurality of pressure generating chambers are formed, and a second region in
4 which a plurality of dents are formed; and
5 a metallic nozzle plate, formed with a plurality of nozzles, the nozzle
6 plate joined to the chamber formation plate such that each of the nozzles is
7 communicated with one of the pressure generating chambers.

1 2. The liquid ejection head as set forth in claim 1, wherein the dents are
2 formed on at least one of main faces of the chamber formation plate.

1 3. The liquid ejection head as set forth in claim 2, wherein a position of
2 one of the dents formed on one main face of the chamber formation plate is
3 made coincident with a position of one of the dents formed on the other main
4 face of the chamber formation plate, when viewed from one of the main faces.

1 4. The liquid ejection head as set forth in claim 1, wherein each of the
2 dents has a pyramidal shape.

1 5. The liquid ejection head as set forth in claim 1, wherein each of the
2 dents has a conical shape.

1

1 6. The liquid ejection head as set forth in claim 1, wherein a size of each
2 of the dents is not greater than a thickness of the chamber formation plate.

1 7. The liquid ejection head as set forth in claim 1, wherein each of dents
2 is formed at a portion where is away from the first region by a distance not less
3 than a thickness of the chamber formation plate.

1 8. The liquid ejection head as set forth in claim 1, wherein the dents are
2 arranged with an interval which is substantially equal to a thickness of the
3 chamber formation plate.

1 9. The liquid ejection head as set forth in claim 1, wherein the chamber
2 formation plate is comprised of nickel.

1 10. The liquid ejection head as set forth in claim 1, wherein the first region
2 is located at a center portion of the chamber formation chamber while being
3 surrounded by the second region.

1 11. The liquid ejection head as set forth in claim 10, wherein the dents
2 are formed at positions opposed to each other with the first region between.

1 12. The liquid ejection head as set forth in claim 1, wherein the pressure
2 generating chamber are arranged with an interval which is not greater than
3 0.3mm.

1 13. The liquid ejection head as set forth in claim 1, wherein the first region
2 and the second region are partly overlapped at a third region adjacent to both
3 longitudinal ends of the pressure generating chambers.

1 14. The liquid ejection head as set forth in claim 13, wherein the dents in
2 the third region are arranged with a fixed pitch which is two to five times as
3 great as a pitch of which the pressure generating chamber is arranged side by
4 side.

1 15. The liquid ejection head as set forth in claim 1, wherein the second
2 region is provided with a length which is two to five times as great as a pitch of
3 which the pressure generating chamber is arranged side by side.

1 16. A method of manufacturing a liquid ejection apparatus, comprising
2 steps of:
3 providing a metal board;
4 subjecting the metal board to a plastic working to form a plurality of
5 recesses on a first face in a first region of the metal board;
6 punching through holes so as to communicate the recesses and a
7 second face of the metal board;
8 subjecting the metal board to a plastic working to form a plurality of
9 dents in a second region of the meal board;
10 joining a metallic sealing plate onto the first face of the metal board so
11 as to seal the recesses; and
12 joining a metallic nozzle plate formed with nozzles, onto the second

13 face of the metal board, such that each of the nozzles is communicated with
14 one of the through holes.

1 17. The manufacturing method as set forth in claim 16, wherein the dents
2 are so formed as to extend in a thickness direction of the metal board.

1 18. The manufacturing method as set forth in claim 16, wherein the dents
2 are formed on one of the first face and the second face which has been an
3 inner side of the metal board curved by the plastic working for forming the
4 recesses.

1 19. The manufacturing method as set forth in claim 18, wherein the dents
2 are formed on both of the first face and the second face.

1 20. The manufacturing method as set forth in claim 16, further comprising
2 a step of polishing the metal board so as to leave the dents thereon, before the
3 sealing plate and the nozzle plate are joined to the metal board.

1 21. The manufacturing method as set forth in claim 20, wherein the metal
2 board and the sealing plate are joined with adhesive agent, while excess
3 adhesive agent is received by the dents.

1 22. The manufacturing method as set forth in claim 21, wherein the first
2 region and the second region are so arranged as to partly overlap at a third
3 region adjacent to both longitudinal ends of the recesses.

1 23. The manufacturing method as set forth in claim 16, wherein the
2 plastic working for forming the dents are performed before the plastic working
3 for forming the recesses.

1 24. The manufacturing method as set forth in claim 20, wherein the dents
2 are formed such that a polished amount in the first region and a polished
3 amount of the second region are made identical.

5